# ERGONOMIC STUDIES ON SAFETY AND HEALTH WORK IN THE INDUSTRIAL BUILDING SYSTEM (IBS) PROJECT

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***Abstract:*** Ergonomic in the construction industry is a priority for construction workers to produce high quality work, good health and good comfort. Therefore, the purpose of this study is to examine the workers' awareness level, to identify the impact of ergonomic implementation and to investigate the strategies to improve ergonomic implementation on the safety and health work for workers in the Industrial Building System project in Perlis. This study is conducted by using qualitative research method, where the data is collected through semi-structured interview. The three respondents are the top management of the construction in Perlis. The results of this study revealed that the workers' awareness level is high because of various steps have been taken by the government to put more important of ergonomic to the workers in the construction industry and knowledge of ergonomics within construction workers to reduce injuries or accidents in the site of the construction. The impact of ergonomics gives the workers more comfortable doing work under high pressure, reduce injuries, give the best result for the quality of work, taking care of the health, gives workers a greater sense of accomplishment and the time to complete the project can be adjusted at the appointed time as there are no accident or injuries during work.

***Keywords:*** Ergonomic, construction, awareness, strategies, injuries

## 1. INTRODUCTION

Ergonomic is a significant factor in achieving and maintaining the productivity and safety of employees (Roper & Yeh, 2007). Ergonomic also is a study conducted in relation to people at work scientifically (Mustafa et al., 2009). Usually workers carry out their work in standing, sitting and alternating sitting. Such a position within a period of time length has led to discomfort and fatigue among workers (Zein et al., 2015.) In Malaysia, it has occupational safety and health policy, it is not enforced by the authorities. The main problem related to workers safety and health issues is the attitude of the workers. Most of them do not comply with the rules set out (Samewoi & Misnan, 2010). Therefore, the focus of this research is to examine the workers' awareness level of ergonomics, to identify the impact of ergonomic implementation in the workplace and also to investigate the strategies to improve ergonomic implementation of safety and health work in the Industrial Building System (IBS) project. Hence, this study was undertaken in order to study the ergonomics on safety and health work in the IBS project in the construction industry.

## 2. METHODOLOGY

This study was used qualitative research method. Semi-structured interview is aligning in this research study. It covers 3 sections use to acquire data from 3 respondents from construction companies in Perlis. In addition, this study involves in searching some information from the secondary data that are related from journal, article, internet, and reports.

## 3. RESULTS AND DISCUSSION

This results gets a lots of information in ergonomics studies on safety and health work in the Industrial Building System (IBS) project as the main theme. However, it also related with the objectives on the research study. Hence, using the data of workers' awareness level of ergonomics and the impact of ergonomics implementation in the workplace, it can give result in what is the strategy to improve ergonomic implementation on safety and health work in the (IBS) project on the construction industry.

Based on the result, although only one interviewer said that workers' awareness level of ergonomic in the workplace was low but it could be said that workers' awareness level was high. This is because right now the government has obliged any organization in the construction industry to send their workers to attend the courses. In addition, worker's also have a little knowledge of ergonomics within construction workers to reduce injuries or accidents in the site of the construction. It means that, workers' awareness level of ergonomic is high that they already know a little about good ways to prevent them from experiencing problems in the workplace. Besides, the ergonomics implementation provides the positive impact to the workers. When the ergonomics implementation occurs around the construction project, the workers feel more comfortable doing work although they work under the high pressure. The workers also can reduce injuries or accidents during work and the quality of work will provides the best quality such as time to complete the construction project can be adjusted at the appointed time as there are no accidents or injuries during work. Therefore, the strategies to improve ergonomic implementation in the workplace likely provides the accurate training, follow the rule and regulation that set by the government such as "Occupational Safety and Health Act 1994", attend some ergonomic courses, creating a new law relating to ergonomic in the construction industry and refreshing existing methods to make the ergonomic implemented by the workers.

As evidence, the results of this research are supported a study conducted by Social Security Organization stated that the number of Musculoskeletal Disorders (MSD's) cases has steadily increased to 675 cases in 2014 from 10 cases in 2005 (Manikandran & Sathyanathan, 2014). This means that, the increase in the number of cases indicates a lack of worker's awareness level. However, proper understanding and efficient management programs need to be improved to reduce the number of injuries and accidents during work and increase ergonomic awareness level among their workers. Here, there are other strategies to improve ergonomic implementation on the safety and health work in the IBS project with past researchers by select appropriate safety equipment. This is because when providing the workers with appropriate safety equipment that promotes safe body posture, it will protects the worker from severe musculoskeletal injuries and worker discomfort in the construction environment.

## 4. CONCLUSION

The most important of this study is to provide the significant information to construction workers and to anyone involved in the construction industry, especially the knowledge about ergonomic study on the safety and health work in IBS project, at the same time, help workers raise awareness level about the ergonomic implementation. Thus, this study is useful for future research to create a new method or strategies to improve the ergonomic implementation in the workplace. On the whole, accidents and injuries in terms of ergonomic in the construction site is a problem that demands attention and should take action regarding the strategies to improve ergonomic implementation in the workplace to construction workers.

## 5. REFERENCES


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